Space Weather Forecast

Issued on Thursday, 11 August 2022 at 13:18 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

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Space Weather Forecast Headline: Slight chance of isolated Minor Geomagnetic Storms on 11 August.

Analysis of Space Weather Activity over past 24 hours
Solar Activity: Solar activity has been Low, with one C-class flare produced from a region in the southwest quadrant. There are four further sunspot regions on the visible disc, with all of these simple and benign. No CMEs were visible in available imagery.

Solar Wind / Geomagnetic Activity: Solar winds have been mainly elevated, as the Earth is influenced by a fast solar wind. Total interplanetary magnetic field strength has been weak, with the north-south component also varying weakly. Geomagnetic activity was Quiet to Unsettled (Kp 2 to 3).

Energetic Particles / Solar Radiation: No solar radiation storms were observed.

Four-Day Space Weather Forecast Summary
Solar Activity: Solar activity is likely to be Very Low or Low, with a likelihood of Common-class flares.

Solar Wind / Geomagnetic Activity: No CMEs feature in the current forecast. Solar wind speeds are expected to average between 500-600km/s through the next two days, due to coronal hole high speed streams. Winds are then likely to decline towards background levels on 13 and 14 August. Geomagnetic activity is forecast to be mainly Quiet to Unsettled, but with a slight chance of Active or G1/Minor Storm intervals in 11 and 12 August. A return to mainly Quiet conditions is then likely from 13 August.

Energetic Particles / Solar Radiation: No solar radiation storms are expected given the current relatively few and magnetically simple cohort of sunspots.

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Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	10	5	1	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	5	5	5	5
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

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